1 Comments from Whitney

1. In general I think there are too many figures for a PRL. Figures 1-5 can probably be removed or reduced.
   I kept all the figures for now, but thinking in removing figure 2, the RTPC.

2. "Deeply Virtual Compton Scattering" -> "deeply virtual Compton scattering (DVCS)"
   Done.

3. "Radial Time Projection Chamber" -> "radial time projection chamber (RTPC)"
   Done.

4. "Beam Spin Asymmetries" -> "beam spin asymmetries"
   Done.

5. "Compton Form Factors" -> "Compton form factors"
   Done.

6. "Generalized Parton Distribution" -> "generalized parton distribution"
   Done.

7. Line 17: "Quantum Chromodynamics (QCD)" -> "quantum chromodynamics (QCD)"
   Done.

8. Line 19: "development of the Generalized Parton Distributions (GPDs) ..." -> "development of the generalized parton distribution (GPD) ...", assuming the acronym isn't already defined in abstract.
   Done.

9. Line 23: Unnecessary comma.
   Done.

10. Line 23: Last sentence in paragraph could be improved. It is at a critical location in the paper so you might want to reword for clarity.

    "In impact parameter space, the GPDs are indeed interpreted as a tomography of the transverse plane for partons carrying a certain longitudinal momentum"

    Perhaps ...

    "Impact parameter GPDs provide a tomographic image of the partons carrying fixed values of longitudinal momentum."
    We would like to keep the sentence as it is.

11. Line 28: "Deeply Virtual Compton Scattering" -> "deeply virtual Compton scattering" and remove "(DVCS)" if acronym defined in abstract.
    Done.

12. Line 29: ", i.e. the " -> ", *i.e.*, the"
    Done.

13. Line 34: Technically "JLab" isn't an acronym since it has lower case letters – it is just another name. Furthermore, if you are going to define the JLab acronym anyway, shouldn't you do the same for CERN and HERA? I suggest just leaving it as "JLab" or "Jefferson Lab".
Removed JLab and keep it as Jefferson Lab.

14. Line 48: "Figure 1" -> "FIG. 1"
Done.

15. Line 50: Sentence is hard to read. Maybe define the invariants Q^2 and t in one sentence. Then describe the kinematic regime for factorization.
Left as it is for now.

16. Line 59: Oxford comma? "x, ξ, and t"
Done.

17. Line 59: "Figure 1" -> "FIG. 1"
Done.

18. Line 61: " with M the proton mass ..." -> ", $\nu = k^0 - k'^0$, and M is the proton mass." Note that t is already defined defined (see Line 50 comment).
Cleaned and removed t from here.

19. Line 65: "Compton Form Factors" -> "Compton form factors"
Done.

20. Line 66: "... defined as" -> "... defined at leading order as" The coefficient function is the LO one and it should be noted.
Done.

21. Line 69: Paragraph needs improved. Perhaps get to the point quickly ... "The HERMES experiment measured this process with a few nuclear targets (N, Ne, KR, and XE), however, they did not measure the recoil nucleus. Therefore, the coherence of the reaction possibly suffers from large contaminations ..."
Kept the same for now.

22. Line 79: Shouldn't "CLAS" have already been defined in the abstract?
We define it here.

23. Line 83: Is this the first definition of RTPC? (But note the correct capitalization of "radial time projection chamber")
Yes and corrected for the capitalization.

24. Line 85: The sentence beginning here seems out of place. "... while it is subject to significant nuclear effects". Is this accidental mixing with the incoherent paper?
I don't see why it is out of place.

25. Line 100: "at energy of " -> "at an energy of"
Done.

26. Line 115: "In Figure 2 a picture of RTPC installed in the experimental hall, and the rendering showing detector components and the 4 He detection concept are presented." -> "Presented in FIG. 2 are a picture of RTPC installed in the experimental hall and a diagram showing the basic detection technique."
the sentence is cleaned.

27. Line 134: "The photons are detected in either the IC or the CLAS electromagnetic calorimeter." Is this true?
    Yes for the case of the ICEC pio topology needed for the background subtraction.

28. Line 146: "events with ... " -> "events with $Q^2 > 1$ GeV$^2/c^2$."
    Extra spaces? yes done.

29. Line 160: "After these requirements, we ... " -> "About 3200 events pass these requirements and are shown in FIG. 4..."
    Edited.

2 Comments from Hovanes

1. In the abstract there is a statement about the BSA size relative to the BSA on the proton, but there is not such statement or comparison in the article (I might have missed it). I would suggest either removing this statement from the abstract or add graph(s) comparing the two BSAs to support such a statement.
   What about adding the t-dependence plot of the ALU ratio?

2. line 36 : "allowed extraction of the tomography of the nucleon" could be changed "allowed for extraction of the three-dimensional picture of the nucleon" . The way "tomography" is used in lines 24 and 37 is a little unusual.
   Cleaned.

3. line 49 : "hand bag diagram" -> "hand-bag diagram"
   Done here and in the caption.

4. line 78 : I suggest removing "and that the reaction did not occur on a bound nucleon".
   Removed.

5. line 80 : CLAS was not designed for study of DVCS, therefore the statement that it is optimized for DVCS is not a justified statement. One can simply say " ... in Hall-B at Jefferson Lab has been previously used for DVCS measurements on nucleon."
   Cleaned.

6. Line 194 : "and a solenoid." -> "and a solenoid magnet."
   Added.

7. Line 198 "... 5 Tesla solenoid ..." -> "... 5 Tesla solenoid magnet ... "
   Added.

8. Figure 3 : The histograms titles need to be removed from the top of the graphs and put as x-axis titles.
   I will update them.

9. Line 196 " ... that depends ..." -> "... that depend ..." .
   Corrected.

10. Line 152 and line 198 : The font for ’He4 changes throughout the paper.
    Corrected.

11. Figures 3, 5, 6, 7 : axis titles labels and legends are totally illegible. At some point these will have to be improved. I will work on them.

12. Line 271. I am not sure how the results in Figure 7 support the argument that the extraction of CFF is model independent. The applicability of Eq. 5 presumably determines if this extraction is model independent or not, either way the fits would produce some results.

3 Comments from Eric

I will concur with other remarks that you may try to concentrate on a reduced set of figures. It is always difficult to squeeze everything in the PRL and I apologize in advance for my next remark asking to potentially say more. It would be valuable to have a direct comparison between proton and He4 on the basis of the amplitude of the asymmetries at 90Â°. The ratio He4/proton would give the so-called generalized EMC ratio that already encode some nuclear effects. It would be interesting to know whether or not this comparison yields conclusive physics input. We may remove Figure 2 and add a t-dependence for the ratio!

4 Comments from Lamiaa

1. Would it possible to define some acronyms in the abstract especially the ones that will be used again there like DVCS (some published PRLs did, e.g. the latest CLAS PRL of 2015, they used CLAS acronym w/o. definition (!), defined GPDs acronym in the abstract to avoid writing generalized parton distributions twice, and all others including JLab were defined in the core.

   I believe according to the abbreviation guidelines below, you could either define the acronym DVCS using deeply virtual Compton scattering or Deeply Virtual Compton Scattering but e.g. the above letter used the former! Thanks!

2. In Eq. 1 & 2 you gave the expression of the real and comlplex CFF amplitudes, hence, shouldn't be "real and complex amplitudes" in line 66? Edited.

3. While the PRL link below contains some comments about the letter length, number of words, and figures size which It will be nice to review, I have a comment about some figures: a. To gain some space you could move a figure's caption a little bit up using:

   vglue -xxxcm caption ! e.g. vglue -0.5cm

   b. Some figures are more shifted to the left, e.g. Fig. 3, Fig. 5, 6 & 7, if centering under

   beginfigure*
   centering
   includegraphics[]
   vglue -0.55cm caption
   label
   endfigure*

   is not doing the job. You could force it by adding vspace*-xxxcm just after beginfigure*. (a simple trick that works!) I will work on them.

4. It will be nice to rephrase some sentences to read better such as: a. Line 207, "The explicit expressions of these terms can be found in [40] and show that, by using the sin(ϕ) and cos(

ϕ) contributions, it is possible to extract Im(HA) and Re(HA) from the beam spin asymmetry."

b. Line 236, "However, added quadratically,the total systematic uncertainty is about 10%, which is significantly smaller than statistical uncertainties in all kinematical bins."

c. Line 278, "While the accuracy of our results does not allow to discriminate between the models, they demonstrate possibility of extraction of the CFF of spin 0 target in a model independent way."

5. Line 256, Q^2, x_B, and t dependencies..... Done.